

## **AMENDMENTS TO THE CLAIMS**

This listing of claims replaces all prior versions and listings of claims in the application.

### **Listing of Claims**

1-28. (Canceled)

29. (Currently Amended) A method of controlling resources to avoid congestion in a cellular radio system having at least one mobile terminal connectable to a network via at least one base station, said method comprising the steps of:

receiving in ~~the base station~~ each of a plurality of base stations, an uplink signal sent from the mobile terminal, ~~said wherein each base station receiving a plurality of different uplink signals~~ receives the uplink signal with a different quality due to different uplink radio paths between the mobile terminal and each of the base station stations;

sending the received uplink signal from each base station to a network node;

~~deriving from combining~~ the plurality of uplink signals received at the base station; network node to obtain a resulting signal corresponding to the uplink signal sent from the mobile terminal;

determining ~~the importance of~~ an amount that each received uplink signal contributes to the resulting signal;

determining whether there is a shortage or a projected shortage of resources to handle current or projected traffic demand in ~~the~~ each base station; and

if there is a shortage or a projected shortage of resources in a given base station:

~~prioritizing downlink radio links from the base station to the mobile terminal according to the determined importance of each received uplink signal; and~~

~~freeing resources from lower priority downlink radio links to avoid congestion~~

determining whether the uplink signal received by the given base station contributed a greater amount to the resulting signal than most of the other base stations;

if the uplink signal received by the given base station contributed a greater amount to the resulting signal than most of the other base stations, maintaining the allocation of resources to the downlink connection between the given base station and the mobile terminal; and

if the uplink signal received by the given base station did not contribute a greater amount to the resulting signal than most of the other base stations, freeing resources from the downlink connection between the given base station and the mobile terminal.

30. (Currently Amended) The method of claim 29, wherein the step of freeing resources includes reducing transmit power on the ~~lower priority downlink radio links~~ downlink connection between the given base station and the mobile terminal.

31. (Currently Amended) The method of claim 29, wherein the step of freeing resources includes removing ~~at least one of the lower priority downlink radio links~~ the downlink connection between the given base station and the mobile terminal.

32. (Currently Amended) The method of claim 29, further comprising controlling signal processing resources in ~~the~~ each base station according to the determined ~~importance of each received uplink signal~~ amount that each base station's received uplink signal contributes to the resulting signal.

33-35. (Canceled)

36. (Currently Amended) The method ~~according to any one of the preceding claims of claim 31~~, wherein the step of freeing resources includes reallocating codes from ~~the removed lower priority downlink radio links~~ downlink connection between the given base station and the mobile terminal if there is a shortage or projected shortage of codes in the given base station.

37. (Currently Amended) The method of ~~claim 34~~ claim 36, wherein the network node informs the base station which codes utilized for downlink ~~radio links are most important for connections contribute the most to~~ a resulting signal in the mobile terminal, and wherein the step of ~~prioritizing downlink radio links includes prioritizing the downlink radio links based on which codes utilized for downlink radio links are most important for~~ reallocating codes includes reallocating codes first to the downlink connections that contribute the most to the resulting signal in the mobile terminal.

38. (Currently Amended) The method of ~~claims 34-37~~ claim 29, wherein the network node places information about the importance contribution of each received uplink signal in a header of a packet that is sent to the base station.

39-40. (Canceled)

41. (Currently Amended) The device of ~~claim 40~~ claim 54, wherein the means for freeing resources includes means for reducing downlink transmit power on the ~~lower priority downlink radio links~~ connection to the given mobile terminal.

42. (Currently Amended) The device of ~~claim 40~~ claim 54, wherein the means for freeing resources includes means for removing ~~at least one of the lower priority downlink radio links~~ the connection to the given mobile terminal.

43. (Currently Amended) The device of ~~claim 40~~ claim 54, further comprising means within the base station for controlling base station signal processing resources according to the ~~determined importance~~ contribution of each received uplink signal.

44. (Canceled)

45. (Currently Amended) The device of ~~claim 40~~ claim 42, wherein the means for freeing resources includes means for reallocating codes from the removed lower priority downlink radio links connection to the given mobile terminal if there is a shortage or projected shortage of codes in the base station.

46. (Currently Amended) The device of claim 45, wherein the network node includes means for informing the base station which codes utilized for downlink radio ~~links are most important for connections contribute the most to a resulting signal in the mobile terminal, and wherein the means for prioritizing downlink radio links includes means for prioritizing the downlink radio links based on which codes utilized for downlink radio links are most important for~~ reallocating codes includes means for reallocating codes first to the downlink connections that contribute the most to the resulting signal in the mobile terminal.

47. (Currently Amended) The device according to ~~any one of claims 40-46~~ claim 54, wherein the node places information about the ~~importance~~ contribution of each received uplink signal in a header of a packet that is sent to the base station.

48. (Currently Amended) A mobile communication network that controls network resources to avoid congestion while communicating with at least one mobile terminal, said network comprising:

a plurality of base stations, each of which includes means for receiving an uplink signal sent from the mobile terminal, wherein each base station receives the uplink signal with a different uplink signal quality due to different uplink radio paths between the mobile terminal and each base station;

a node connected to the plurality of base stations, said node including:

means for deriving from the different uplink signals received at the plurality of base stations, a resulting signal corresponding to the uplink signal sent from the mobile terminal;

means for determining ~~the importance of~~ an amount that each received uplink signal contributes to the resulting signal; and

means for communicating the ~~importance~~ contribution of each received uplink signal to the plurality of base stations;

wherein each given base station also includes:

means for determining whether there is a shortage or a projected shortage of base station resources to handle current or projected traffic demand;

means, responsive to a determination that there is a shortage or a projected shortage of base station resources, for ~~prioritizing downlink radio links from the base station to the mobile terminal according to the determined importance of each received uplink signal;~~ determining whether the uplink signal received by the given base station contributed a greater amount to the resulting signal than most of the other base stations; and

means, responsive to a determination that ~~there is a shortage of base station resources~~ the uplink signal received by the given base station did not contribute a greater amount to the resulting signal than most of the other base stations, for freeing resources from ~~lower priority downlink radio links~~ the downlink connection between the given base station and the mobile terminal to avoid congestion.

49. (Currently Amended) A node in a cellular radio network for controlling network resources to avoid congestion, said node being connected to ~~at least one base station that communicates~~ a plurality of base stations that communicate with at least one mobile terminal, said node comprising:

means for receiving from ~~the base station, a plurality of different uplink signals~~ each of the plurality of base stations, an uplink signal received from ~~the~~ a given mobile terminal, ~~said different uplink signals being generated~~ wherein each of the base stations reports the uplink signal to the node with a different signal quality due to different uplink radio paths between the mobile terminal and the each base station;

means for deriving from the plurality of reports of the uplink signals signal, a resulting signal corresponding to the uplink signal sent from the given mobile terminal;

means for determining ~~the importance of~~ an amount that each received uplink signal contributes to the resulting signal; and

means for sending to the each base station, ~~prioritization~~ information regarding the ~~importance~~ contribution of ~~each received the~~ uplink signal reported by the base station;

wherein the each base station ~~prioritizes downlink radio links from the base station to the mobile terminal according to~~ utilizes the ~~prioritization~~ contribution information received from the node, and frees resources from ~~lower priority downlink radio links~~ downlink connections that do not contribute more than a predefined amount to the resulting signal to avoid congestion.

50. (Currently Amended) The node of claim 49, wherein the reported uplink signals from the base stations include information about pilot signal measurements made in a plurality of mobile terminals, and the node also includes:

means for determining a quality of each downlink radio link based on the pilot signal measurements; and

means for ~~prioritizing~~ determining which of the downlink radio links ~~based on~~ contribute more than a predefined amount to the determined quality of each downlink radio link;

wherein the means for sending ~~prioritization~~ contribution information to the each base station also sends ~~prioritization~~ contribution information regarding the quality of each downlink radio link.

51. (Currently Amended) The node of claim 50, further comprising means for informing the base station which codes utilized for downlink radio links ~~are most important for~~ contribute the most to a resulting signal in the mobile terminal, ~~and wherein the means for prioritizing downlink radio links includes means for prioritizing the downlink radio links based on which codes utilized for downlink radio links are most important for the resulting signal in the mobile terminal.~~

52. (Currently Amended) The node of claim 49, wherein the means for sending ~~prioritization~~ contribution information to the each base station includes means for sending the ~~prioritization~~ contribution information in a header of a packet that is sent to the each base station.

53. (Previously Presented) The node of claim 49, wherein the node is a Radio Network Controller.

54. (New) In a base station in a cellular radio network, a device for controlling radio resources to avoid congestion, said base station receiving a plurality of uplink signals from mobile terminals over a plurality of radio connections to the mobile terminals, and said base station reporting a signal quality level of each uplink signal to a node in the network, wherein a given uplink signal from a given mobile terminal is received by multiple base stations with differing signal quality levels, and is reported by the multiple base stations to the network node, said device comprising:

means for receiving information from the network node regarding an amount that the given uplink signal reported by the base station contributes to a resulting total signal from the given mobile terminal;

means for determining whether there is a shortage or a projected shortage of resources to handle current or projected traffic demand in the base station; and

means responsive to a determination that there is a shortage or a projected shortage of radio resources, for freeing resources from the radio connection to the given mobile terminal if the uplink signal from the given mobile terminal does not contribute more than a predefined amount to the resulting total signal.